

## Chapter 7.5 VIRGINIA COASTAL ZONE MANAGEMENT PROGRAM

### *A. Description of the Virginia Coastal Zone Management Program*

Virginia's coastal zone encompasses all of Virginia's Atlantic coast watershed as well as parts of the Chesapeake Bay and Albemarle/Pamlico Estuary watersheds. This coastal zone area, also known as Tidewater, Virginia, includes 29 counties, 15 cities and 42 towns as well as all waters within and out to the three-mile Territorial Sea boundary.

The Virginia Coastal Zone Management (CZM) Program was established in 1986 to protect and enhance Virginia's coastal resources. Virginia CZM is a network of state agencies and Tidewater local governments and the CZM laws and policies they implement. Through this network, the program manages sand dunes, wetlands, underwater lands, fisheries, point and nonpoint source air and water pollution, shoreline sanitation and a variety of other areas of particular concern such as coastal wildlife habitats and public access, waterfront redevelopment and underwater historic sites. See [www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance.aspx) for more details about the laws and policies that define the program.

Executive Order No. 18 (2010) signed by Governor Robert McDonnell in June 2010, continuing the Virginia CZM Program, directs all state agencies "to carry out their legally established duties consistent with this Program in a manner that promotes coordination among all government agencies." It is through this coordination that the Virginia CZM Program has been able to achieve great strides in achieving its goals and objectives." See [www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance.aspx)) for a list of the goals and go to [www.deq.virginia.gov/Programs/CoastalZoneManagement/DescriptionBoundary/Goals.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/DescriptionBoundary/Goals.aspx) what the program has accomplished toward reaching these goals.

Core regulatory agencies in the Virginia CZM Program network include the Marine Resources Commission (VMRC), the Department of Environmental Quality (DEQ), the Department of Game and Inland Fisheries (DGIF), the Department of Conservation and Recreation (DCR), and the Virginia Department of Health (VDH). Other agencies assisting with the Program include the Department of Historic Resources (DHR), Department of Forestry (DOF), Virginia Department of Agriculture and Consumer Services (VDACS), the Department of Mines, Minerals and Energy, the Virginia Institute of Marine Science (VIMS), the Virginia Economic Development Partnership (VEDP) and the Virginia Department of Transportation (VDOT). DEQ serves as the lead agency for Virginia's networked CZM Program and helps agencies and localities to develop and implement coordinated coastal policies.

By virtue of having a federally approved coastal zone management Program, Virginia also has the authority to require that federal actions within the coastal zone be consistent with Virginia's CZM Program. Environmental impact review staff at DEQ review federal actions in the coastal zone for consistency with Virginia's CZM Program laws and policies.

### *B. Coastal Zone Management Act Funding Received by Virginia*

In addition to providing a forum for development and coordination of cross-cutting coastal issues, the Virginia CZM Program provides grant assistance to state agencies and local governments. Having a federally approved coastal zone management program qualifies Virginia to receive just under \$3 million per year in federal funds under a formula allocation based on miles of shoreline and coastal zone population. The Office of Ocean and Coastal Resource Management at the National Oceanic and Atmospheric Administration (NOAA) allocates these funds under the Coastal Zone Management Act (CZMA). These grant funds are 50% matched by Virginia's state agencies and local governments.

Since 1986, Virginia has received just under \$65 million dollars in federal CZMA funds, matched by just under \$54 million in state and local funds. These funds are used to implement the Virginia CZM Program

and to carry out a broad scope of state and local projects in the areas of coastal technical assistance, enforcement, environmental management, habitat monitoring and restoration, land acquisition, local government planning and comprehensive plans, public access planning and construction, public education, shoreline management, special area management planning, wetlands surveys and policy, and water quality monitoring/protection and improvements. For more information about the federal CZMA funding Virginia receives, how this funding is dispersed and the results of this funding visit [www.deq.virginia.gov/Programs/CoastalZoneManagement/Funds,Initiatives,Projects.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/Funds,Initiatives,Projects.aspx).

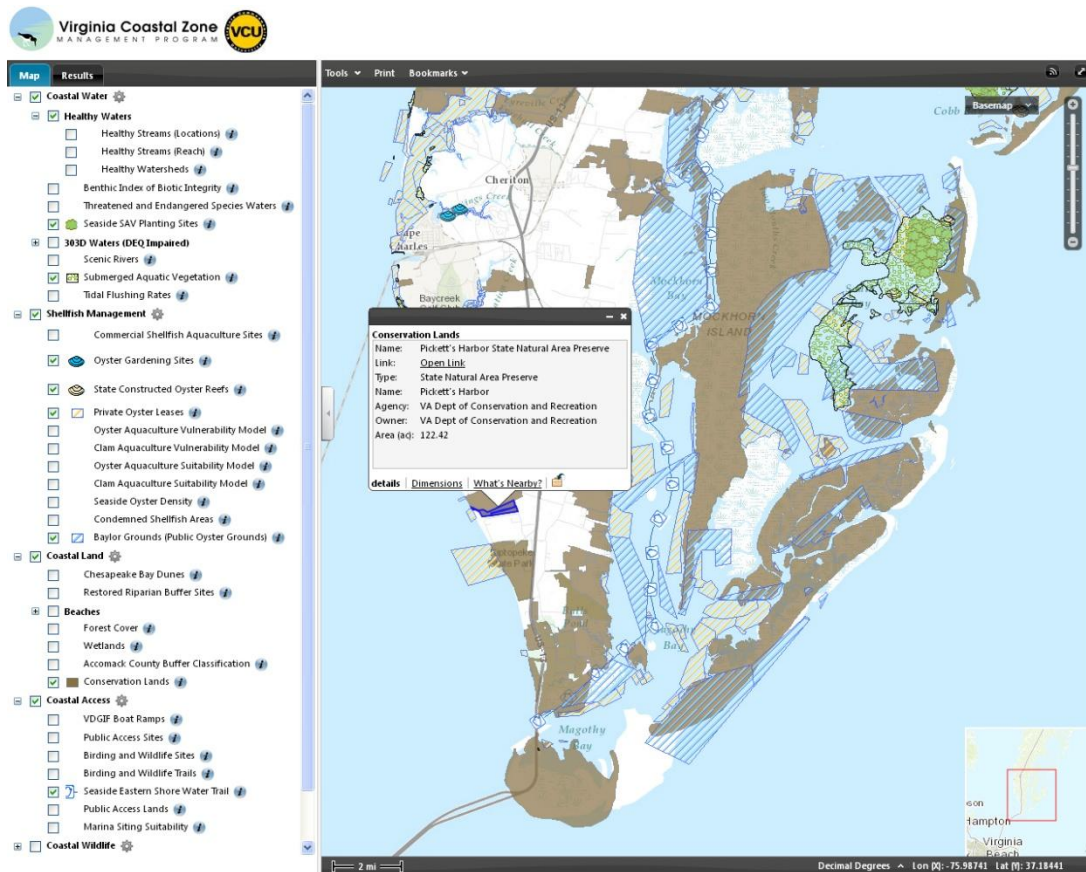
## **Virginia Coastal Zone Management Program Initiatives Benefiting Water Quality**

*Several initiatives exemplify the Virginia CZM Program's unique opportunity to fund and support projects that protect the Commonwealth's coastal resources, while encouraging intergovernmental coordination and partnerships with a broad constituency. Highlighted below are Virginia CZM Program initiatives that address water quality and focus on education, monitoring and restoration of living resources to improve water quality in Virginia's coastal waters.*

### **1. Virginia CZM Program GIS-Mapping Efforts: Coastal GEMS and Coastal VEVA**

#### **A. Virginia Coastal GEMS**

In February 2007, the Virginia CZM Program launched "Coastal GEMS" (Coastal Geospatial and Educational Mapping System) found at [www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx). Coastal GEMS integrates and provides access to a wide range of coastal resource data, fact sheets, relevant projects, regulatory information, and important Web links. Coastal GEMS is a robust, one-stop, data gateway for federal, state, and local government decision makers. It facilitates data sharing among governments, NGOs, and the general public and promotes standards for environmental data management within the region. Coastal GEMS allows its users to explore and describe patterns and relationships among water and land ecosystem elements across broad (i.e., landscape-level) spatial scales.



The development of Coastal GEMS was a large-scale, multi-partner effort to create a “vision” or map of the ecologically and economically significant aquatic (marine and freshwater) and terrestrial resources found within Virginia’s Coastal Zone. Although spatially displayed data for aquatic and terrestrial ecosystems are becoming more and more accessible through the Internet, often these data are sequestered in different agencies’ and organizations’ websites and are not joined into one central application to allow all users equal and efficient access. The vision was to build this type of access. Seeing the resources in one big picture could simplify the task of connecting local land use planning decisions to state and federal water use policies. A stronger understanding of how activities on the land and in the water affect one another would enable everyone to better protect and manage coastal resources in a logical and sustainable fashion - something critically needed in light of today’s increasing development pressures.

The data which are being incorporated into Coastal GEMS have been the result of collaborative discussions and data-sharing efforts between many state and local agencies with a vested interest in Virginia’s coastal zone and the Virginia CZM Program will continue to explore opportunities to include additional data layers from partner agencies as they are developed. The Virginia CZM Program has also funded many data development projects which are represented in Coastal GEMS data layers.

The availability of adequate coastal resource data is essential to improving decision-making at the state and local level. By mapping the best remaining blue and green infrastructure in coastal Virginia, the Virginia CZM Program’s Coastal GEMS website provides an easy-to-access, visual reference for localities where vital coastal resources are located. The Virginia CZM Program continues to work closely with the Center for Environmental Studies at Virginia Commonwealth University, Worldview Solutions, Inc. and all its data-sharing partners to enhance the interface, tools, data, and information within Coastal GEMS. Coastal GEMS is now a dynamic Internet mapping application with aerial imagery, reference data layers such as roads and streams, and over 80 data layers of land and water coastal resources, models and

examples for conservation planning. Unique selection tools allow you to generate tables of coastal resource information for a selected area and mapping tools allow you to easily investigate and navigate through the coastal zone and create maps that can be exported or printed for further use and analysis.

The divisions of state and local management of Virginia's coastal resources are complex and difficult for the general public to understand. In addition to the mapping component of Coastal GEMS, the Virginia CZM Program created "fact sheets" for each data layer to break down the complexity of coastal resource management. The fact sheets provide brief information and links to in-depth information on:

- The value of the resource (ecological, economic, and social).
- Management of the resource (at local, state, and federal levels).
- Why and how the data was developed.
- How to directly download the data or who to contact to obtain the dataset.
- Future directions if the data is associated with a long-term funded project.
- Frequently asked questions received from the general public.

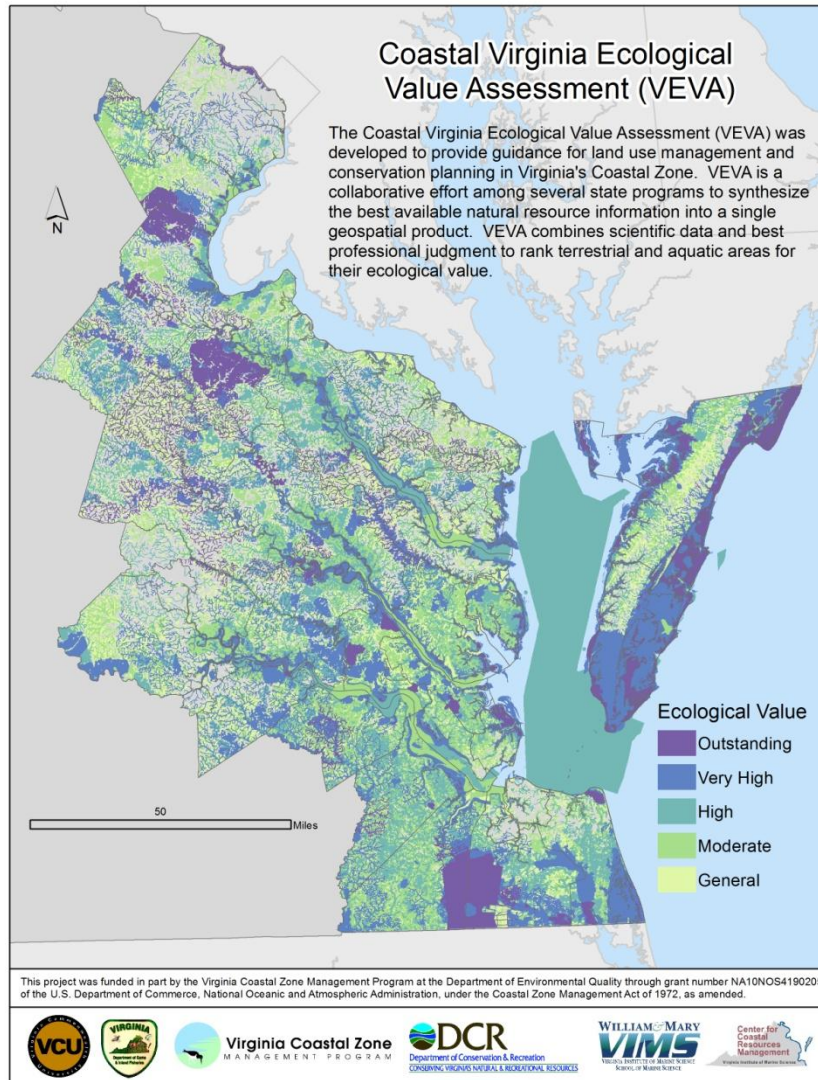
The Virginia CZM Program released an improved version 2 of Coastal GEMS in 2008 and in 2013 released version 3 with additional basemaps, improved cartography, user markup and search features, and improved browser compatibility. CZM staff created and implemented a Coastal GEMS training program for state agencies, local governments, and conservation organizations including: a presentation about Coastal GEMS and why/how it was created, a live demo of Coastal GEMS which is tailored to the specific needs of the audience, and a handout with info about Coastal GEMS and the data layers available. Info regarding GEMS training was posted to GEMS website and publicized to CZM partners. The CZM Program also plans to develop a secondary education curriculum and has presented on the use of Coastal GEMS in an educational context at the Virginia Environmental Education Conference.

*For more information on Coastal GEMS and to see a full list of geospatial data available, please visit [www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx) or contact Nick Meade at (804) 698-4297 or [Nick.Meade@deq.virginia.gov](mailto:Nick.Meade@deq.virginia.gov).*

### B. Coastal VEVA

Many years ago, the Virginia CZM Program envisioned a comprehensive planning tool that would streamline use of all state natural resource information into a single data set facilitating regional and local land-use management and conservation planning in the coastal zone. A collaborative effort led and funded by Virginia CZM culminated in FY 2010 (Task 11). This effort included key natural resource agencies and resulted in the Coastal Virginia Ecological Value Assessment (VEVA). Coastal VEVA integrates elements of more than 40 different data sets funded by the Virginia CZM Program alone, totaling approximately \$1.3M.





Research and data collection that ultimately became the foundation for VEVA began in 1988 with CZM funded conservation planning in Virginia's Lower Peninsula (FY 1988 Task 13.b). Following this effort and throughout the 1990's, CZM funded natural heritage inventories in Virginia Beach, the Albermarle-Pamlico Estuarine region and Northampton County as well as an interstate study of the Neotropical Migratory songbird corridor in New Jersey, Delaware, Maryland and Virginia.

The idea of creating a synthesis of the multitude of this and other contributing state natural resource data layers was brought up at a 2001 Coastal Partners Workshop. Participants agreed that the Virginia CZM Program should create a map of the best remaining coastal lands and waters, in other words the best remaining "green" and "blue" infrastructure. In response, the Virginia CZM Program crafted a Section 309 strategy beginning in FY 2003 that focused on data collection and data synthesis. Grants were awarded to DCR/Natural Heritage for priority conservation areas, to VCU for in-stream assessments, and to VIMS for blue infrastructure maps. In 2008 work began on synthesizing the blue and green infrastructure layers. The Virginia Department of Game and Inland Fisheries (DGIF), Virginia Department of Conservation and Recreation – Division of Natural Heritage (DCR-DNH), and Virginia Commonwealth University – Center for Environmental Studies (VCU-CES) collaborated to combine conservation information and priorities into a unified dataset of priority conservation areas. While the PCA assessed priorities on land, incorporating both stream and watershed health, it did not include all ecologically

valuable regions within Virginia's tidal waters. Coastal VEVA builds on the PCA and incorporates an assessment of estuarine natural resources recognizing that ecological value of Virginia's coastal lands and waters are inextricably linked—with land use decisions on the upland ultimately affecting water quality and habitat health in receiving waters. The estuarine component was produced by VIMS College of William and Mary Center for Coastal Resource Management through a series of grants. Coastal VEVA is defined as lands, aquatic resources and surface waters identified as important for conservation of Virginia's wildlife, plants, and aquatic and natural communities. The identified lands, aquatic resources and waters can be used to prioritize areas for preservation, protection or specific management action. The Virginia CZM Program hopes to update the VEVA map in early 2015.

*To view an interactive version of the Coastal VEVA data layer as well as an informative fact sheet (complete with links to download the data layer and its various inputs from our partners), visit the Virginia CZM's web mapping application Coastal GEMS at [www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx). For more information contact Nick Meade at (804) 698-4297 or [Nick.Meade@deq.virginia.gov](mailto:Nick.Meade@deq.virginia.gov)*

## **2. Virginia Coastal Nonpoint Source Pollution Program**

In 2001, Virginia became the sixth state to receive full approval of its *Coastal Nonpoint Pollution Control Program* from NOAA and EPA. Development of the program was initiated in the fall of 1992 in response to Section 6217 of the Coastal Zone Management Act Reauthorization Amendments of 1990. Section 6217 of the Act requires that states with an approved coastal zone management program, develop a Coastal Nonpoint Source Pollution Control Program. The statute is meant to restore and protect coastal water quality through the application of economically achievable "best management practices" implemented through enforceable state policies and mechanisms. The federal government defines state enforceable policies and mechanisms as state and local regulatory controls and/or non-regulatory incentive programs combined with state enforcement authority.

There are 56 management measures contained in the *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, a comprehensive technical document issued by EPA on methods to abate and control nonpoint pollution in coastal areas. The chapters include management measures in the following areas: agriculture, forestry, urban areas, marinas and recreational boating, and hydromodification (channelization and channel modification, dams and streambank and shoreline erosion). This document is available at [www.epa.gov/owow/nps/MMGI/](http://www.epa.gov/owow/nps/MMGI/).

In order to gain approval of its Coastal Nonpoint Pollution Control Program, Virginia was required to show that:

- 1) State programs include appropriate management measures (defined in the above guidance) to control NPS pollution;
- 2) The state has a means of implementing the management measures, and;
- 3) The state has sufficient statutory authority and enforcement capabilities to ensure implementation of management measures to reduce NPS pollution impacts on coastal resources.

With approval of its Coastal Nonpoint Pollution Control Program, Virginia remains eligible for full funding under the Coastal Zone Management Act and Section 319 of the Clean Water Act.

Following are some of the projects that contributed to the approval of Virginia's Program:

- A series of workshops on the proper use of irrigation systems and development of informational material on irrigation best management practices;
- Development of a web-enabled database for use by local government to track erosion & sediment control activities; development of a model local stormwater ordinance; and an economic evaluation of incorporating BMPs into site design;
- Development of shore lands planning protocol for use by local governments to enhance planning capabilities for areas adjacent to shore lands;

- A statistical analysis of the impact of channelization activities and dams in Tidewater Virginia on in-stream & riparian habitat;
- A plasticulture guidebook for local government and farmers recommending practices to protect water quality for operations using plastic mulch;
- Development of the Virginia Clean Marina Program to provide technical assistance to marinas and recreational boaters.

Virginia's Coastal Nonpoint Pollution Control Program is facilitated by the Virginia Coastal Zone Management (CZM) Program and implemented by CZM agency partners such as the Virginia Department of Environmental Quality (DEQ), the Virginia Department of Conservation and Recreation (DCR), the Virginia Department of Forestry (DOF), the Virginia Marine Resources Commission (MRC), Virginia Institute of Marine Science (VIMS) and Virginia Commonwealth University (VCU) along with local and regional governments from eight coastal planning districts.

With no current appropriation to fund the Coastal Nonpoint Pollution Control Program, Virginia is addressing non-point pollution issues in the coastal zone through the Virginia Nonpoint Education for Municipal Officials (NEMO) program and the Department of Conservation and Recreation's Healthy Waters program, providing support and technical assistance to local and regional government water quality protection, green infrastructure and sustainable shoreline planning projects. Virginia is also addressing non-point source pollution issues with direct funding to coastal planning district commissions for land and water quality protection projects (see land and water quality strategy under Virginia's 2010 Coastal Needs Assessment and FY2011 - FY2015 Strategies on pp. 6.6-11 & 6.6-12 of this report.

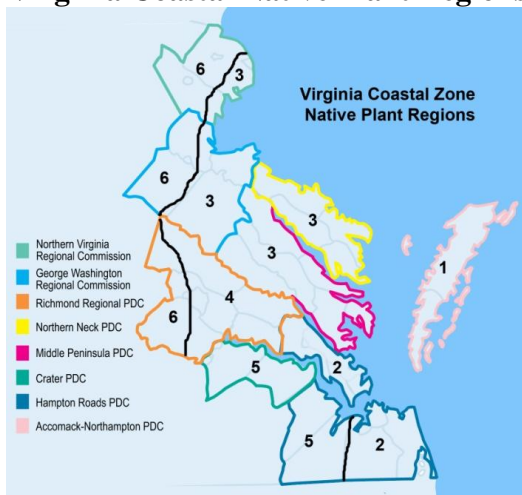
*For more information, contact Beth Polak, Coastal Planner at the Virginia CZM Program, 804-698-4260.*

### 3. Increasing the Availability and Use of Virginia Native Plants

In spring 2009, the Virginia CZM Program and its partners launched the *Plant ES Natives* campaign on Virginia's Eastern Shore using proven social marketing tools and techniques with a focus on increasing the use of Virginia native plants for their habitat, water quality and many other values. The campaign was a model for regional campaigns funded by the Virginia CZM Program on the Northern Neck – *Plant NNK Natives*, in Northern Virginia – *Plant NoVA Natives* and a campaign being developed in Hampton Roads to be implemented in fall 2015. Components of the Plant ES Natives Campaign strategy - such as a regional plant guide (based on the *Flora of Virginia* published in December 2012 - <http://floraofvirginia.org/>), demonstration gardens and garden center plant tags, have been easily transferrable to address barriers common in all the regions to planting natives. Each region however is unique and the planning teams have adopted and are continuously evaluating which place-based approaches are most effective in reaching their gardening population. Most importantly, leaders in the communities are helping make planting natives more popular. Many of the same organizations are participating on the regional campaign steering teams, including planning district commission and local government staff, state agency staff, local chapters of the Virginia Native Plant Society, Master Gardeners, Master Naturalists, Virginia Soil and Water Conservation Districts.

Although the Virginia CZM Program's federal CZMA funding must be spent in Virginia's coastal zone, the Final 2014

#### Virginia Coastal Native Plant Regions



The Virginia CZM Program hopes to have a campaign in every coastal planting region – map above. These native plant regions were delineated by DCR Natural Heritage. The map shows the alignment of these planting regions with Virginia's 8 coastal planning district commissions.

efforts the program and its partners have generated interest in western areas of the state, and presented an opportunity for the program to encourage and support state-wide coordination and collaboration on native plant marketing. In 2011, the Virginia CZM Program reached out to other state and regional focused partners engaged in native plant marketing efforts and initiated the **Virginia Native Plant Marketing Partnership** (VNPMP). The goal of the VNPMP is to *identify opportunities to collaborate and partner on Virginia native plant communication and marketing efforts and form a cohesive and coordinated strategy to encourage the use of native plants coastal zone wide for their many benefits and help meet Virginia's habitat restoration and water quality goals, specifically TMDL goals.*

In summer 2013, the VNPMP Steering Team prioritized the following goals:

1. Development of a Virginia conservation landscaping certification
2. Development of a framework and guidelines for native plant seed collection/propagation and an increase in the availability of Virginia native plants
3. Development of coordinated state-wide native plant marketing strategies

The VNPMP has garnered improved communication and collaboration. For example, in its 2014 Guide to Virginia Growers, the Virginia Nursery and Landscaper Association, a member of the VNPMP Steering Team, has highlighted for the first time the availability of plants that are native to the Chesapeake Bay region (according to the USFWS Chesapeake Bay native plant database). The guide will help the VNPMP reach growers, landscape architects and designers, and contractors and is a great first step in the VNPMP's efforts to increase the wholesale availability and distribution of Virginia natives.

In spring 2014, the Virginia Native Plants Marketing Partnership established two Work Groups to focus on addressing the priority areas selected by the VNPMP Steering Team:

1) *Native Plants Availability Work Group*

This group not only will look at propagation protocols for Virginia natives but also more broadly into the issue of availability, exclusive of marketing.

2) *Chesapeake Bay Landscaping Professional Certification Work Group*

This group will focus on providing any support needed as it relates to Virginia specific native plants design, installation and maintenance modules and content during certification curriculum development and piloting.

The VNPMP Steering Team also will be developing new state-wide marketing strategies, engaging VNLA member and other commercial and wholesale growers.

For more information visit

[www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/NativePlants.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/NativePlants.aspx) :

Virginia Witmer, Outreach Coordinator, Virginia CZM Program – 804.698.4320 or

[Virginia.Witmer@deq.virginia.gov](mailto:Virginia.Witmer@deq.virginia.gov)

#### **4. 2011- 2016 Virginia Coastal Needs Assessment and Strategies**

##### **A. What are a "coastal enhancement area" and a "coastal needs assessment"?**

Population growth along Virginia's coast brings new challenges to managing the Commonwealth's coastal resources.

When the Coastal Zone Management Act (CZMA) was reauthorized in 1990, a new program was established to provide voluntary, match-free funding to coastal states to address needs in nine coastal areas, also known as "coastal enhancement areas":



1. wetlands
2. coastal hazards
3. public access
4. marine debris
5. cumulative and secondary impacts
6. special area management planning (SAMPs)
7. ocean resources
8. energy and government facility siting
9. aquaculture

Section 309 of the Coastal Zone Management Act (CZMA) establishes a voluntary coastal zone enhancement grants program to encourage states and territories with federally approved coastal management programs to develop "program changes" -- changes to the state's enforceable coastal policies or authorities

([www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance/UpdatestoVirginiaCZMProgram-%22RoutineProgramChanges%22.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/Laws,Regulations,Guidance/UpdatestoVirginiaCZMProgram-%22RoutineProgramChanges%22.aspx)) that help the state make improvement(s) in one or more of the nine coastal enhancement areas.

The National Oceanic and Atmospheric Administration (NOAA) distributes CZMA funds and requires that coastal states assess changes, progress and new issues in these areas every five years. The "Coastal Needs Assessment" is developed under Section 309 of the Coastal Zone Management Act.

Upon completion of the draft assessment, the Virginia CZM Program's Coastal Policy Team (CPT) meets to review and prioritize (high, medium or low priority) the nine assessment areas for the next five years of work. In 2010, the CPT used the criteria listed below to determine the priority for each area. Team members individually ranked each area on scoring sheets, considering each area on its own merits. Individual scores were combined and the overall ranking of the areas posted for reflection and discussion by Team members. The Team discussed whether arguments could or should be made to increase or lower the priority of any area, and then by consensus decided on the priority assigned to each area.

- Feasibility: Could progress be made within the time and financial constraints? Is successful development of enforceable policies likely? Is adoption of enforceable policies likely?
- Importance: Is there a significant threat in this enhancement area? How valuable (economically or ecologically) the coastal resource?
- Appropriateness for the Coastal Program: Is this an issue that other agencies are not addressing? Is there a need for coordination of efforts within Virginia?

Once the high priority areas have been determined, strategies are developed which *must result in new enforceable coastal policies in each area*.

Once the Virginia CZM Program has conducted its coastal needs assessment, and prioritizes the areas, the program develops 5-year strategies to address improvements in the areas of high priority. These strategies are developed with input from the program's partners and constituencies through focus groups and strategy work group meetings.

The completed Virginia Coastal Needs Assessment and Strategies document is made available for Public Comment on the Virginia CZM website. Virginia CZM then sends the report to NOAA's Office of Ocean and Coastal Resource Management ([www.ocrm.nos.noaa.gov/czm/](http://www.ocrm.nos.noaa.gov/czm/)) for approval.

Once NOAA's approval is received, specific grant projects are developed to accomplish the strategies over the five-year period. The proposals for these projects are then approved by NOAA's Office of Ocean and Coastal Resource Management.

Pending NOAA's approval of the proposals, the Virginia CZM Program receives approximately \$540,000 each year over five years to implement its strategies.

### *B. Virginia's 2010 Coastal Needs Assessment and FY2011 - FY2015 Strategies*

With each criterion valued at up to 5 points, the assessment issues were ranked on a total scale of 1 to 15. Final ranking for all issues resulted between 9 and 12 points and therefore are all considered high or moderately high priorities and are eligible for strategy development. Based on needs identified in the 309 assessment process and Coastal Policy Team discussion, the Virginia CZM Program plans to focus its attention and efforts on the following issues over the next five years:

- Cumulative and Secondary Impacts of Growth and Development (CSI)
- Special Area Management Plans (SAMPs)
- Ocean Resources (Marine Debris)

Download the Virginia CZM Program Assessment and Strategies document at [www.deq.virginia.gov/Programs/CoastalZoneManagement/Funds,Initiatives,Projects/CoastalNeedsAssessment/CoastalNeedsAssessmentFY20112016.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/Funds,Initiatives,Projects/CoastalNeedsAssessment/CoastalNeedsAssessmentFY20112016.aspx).

For more information about the Section 309 Coastal Needs Assessment process and current report, contact Beth Polak at (804) 698-4260; [Elizabeth.Polak@deq.virginia.gov](mailto:Elizabeth.Polak@deq.virginia.gov).

Below is a brief description of the strategies to be funded between 2011-2016:

#### *Virginia Seaside Special Area Management Plan Strategy*

Dependent on good water quality, submerged aquatic vegetation (SAV) is an important indicator of the health of our coastal waters. SAV also provides habitat and reduces wave energy on adjacent shorelines. Seagrass restoration, as well as oyster restoration, was the focus of a Virginia CZM Program multi-year initiative to help restore the ecology and economy of Virginia's Atlantic barrier island lagoon system -- the *Virginia Seaside Heritage Program* (VSHP) -- and to demonstrate habitat restoration techniques and appropriate management of economic development within a rare and fragile ecosystem. Initially designed as a three-year project, the VSHP was funded through 2008 to build upon the successes already achieved by the VSHP partners.

In 2009, as a result of the accomplishments achieved through the Seaside Heritage Program, Virginia received almost \$2 million dollars in federal stimulus funding to expand seagrass and oyster restoration efforts on the Seaside.

Virginia Seaside Heritage Program Projects (detail on these projects is available online at [www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx))

#### Habitat Restoration:

- [Eelgrass restoration](#)
- [Oyster restoration](#)
- [Phragmites mapping and removal](#)
- [Avian habitat improvement](#)
  - [Bird Concentration and Habitat Studies](#)
  - [Predation on Shorebirds and Waterbird Populations](#)

#### Sustainable Industries: Ecotourism and Shellfish Farming

- [Ecotour guide certification](#)

- [Seaside Water Trail - floating docks and on-line guide](#)
- [Aquaculture best management practices](#)
- [Shorebird prey and clam aquaculture conflicts](#)

*Management and Education:*

- [Virginia Eastern Shorekeeper](#)
- [Seaside water quality database](#)
- [Seabird migration studies](#)
- [Educating landowners and the public:](#)
  - [Phragmites management](#)
  - [beach nesting bird habitat and protection](#) (*Barrier Island Beach Nesting Bird Brochure*)
- [Seaside mapped resources on Coastal GEMS](#)
- [Seaside Management Plan](#)

A copy of *Virginia Seaside Heritage Program Accomplishments Report* is downloadable - [www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx)

Continuing the momentum of the success of the Virginia Seaside Heritage Program, , the Virginia CZM Program worked with Virginia Seaside Heritage Program partners to draft a Seaside Special Area Management Plan (SAMP). The Seaside SAMP focused on resources in the water and development of a “marine spatial plan” to promote compatible uses of the seaside that ensure long term sustainability of the ecosystem, are fair to all stakeholders, and promote efficient use of resources.

The Seaside SAMP Strategy proposes to develop, in essence, a Marine Spatial Plan for the Seaside’s barrier island lagoon system. This is an 80 mile long, 1-5 mile wide swath of shallow water that abounds with birds, finfish, shellfish and once again, underwater grasses. The area is renowned for its clam growing industry which is now valued at about \$50 million per year. It’s also increasingly recognized for its ecotourism value due to the vast number of birds and other fascinating sights as well as its allure for kayakers.

The program change will require adoption by the Marine Resources Commission of a revised approach to leasing state-owned bottom for shellfish cultivation, for providing more suitable areas for public shell fishing and for preserving areas for habitat protection and recreational uses. The Virginia CZM Program has continued to fund large scale eelgrass and bay scallop restoration since 2009. Since then, over 200 acres of eelgrass have been planted and those grasses have now filled in almost 5,000 acres.

*Virginia CZM Program Ocean Resources Strategy*

The Virginia CZM Program continues to work with both the Mid-Atlantic Regional Council on the Ocean (formed in 2009; [www.midatlanticocean.org](http://www.midatlanticocean.org)) and the Mid-Atlantic Regional Planning Body (established in April 2013; [www.boem.gov/Environmental-Stewardship/Mid-Atlantic-Regional-Planning-Body/index.aspx](http://www.boem.gov/Environmental-Stewardship/Mid-Atlantic-Regional-Planning-Body/index.aspx)) to develop a “Regional Ocean Action Plan.” As the path forward becomes clear, Virginia will determine critical specifics as to what form the “enforceable policy” will need to take., The Mid-Atlantic Regional Ocean Action Plan cover the area from mean low water out to the 200 mile Exclusive Economic Zone and focus on better coordination of new (e.g. offshore wind energy, increased ship traffic) and existing ocean uses.

In addition this Ocean Resources Strategy will include creation of a **Virginia Marine Debris Reduction Plan**, with an analysis of key marine debris issues and prioritization of these issues. Virginia CZM held a Virginia Marine Debris Summit in February 2013 to inform development of this plan which is scheduled to be completed in summer 2014. The Plan will be presented to the Virginia Coastal Policy Team and

Final 2014

MARCO for adoption. Decreasing marine debris is one of the goals within MARCO's set of "Water Quality" goals. Read more about the Marine Spatial Plan and Virginia Marine Debris Reduction Plan on the Virginia CZM Program's ocean planning pages at

[www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/OceanPlanning/VirginiaOceanPlanning.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/OceanPlanning/VirginiaOceanPlanning.aspx) and [www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaMarineDebris.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaMarineDebris.aspx)

*For more information about the Virginia Seaside Heritage Program, the Virginia Seaside Special Area Management Plan and the Virginia Marine Spatial Plan, please contact Laura McKay at (804) 698-4323; [Laura.McKay@deq.virginia.gov](mailto:Laura.McKay@deq.virginia.gov). Visit the Seaside Heritage Program Web site at [www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx](http://www.deq.virginia.gov/Programs/CoastalZoneManagement/CZMIssuesInitiatives/VirginiaSeasideHeritageProgram.aspx) for more details on the projects mentioned here and other efforts under the VSHP to improve barrier island avian habitat, increase ecotourism opportunities, map and remove Phragmites, and educate the public about the significant coastal resources of Virginia's eastern shore.*

### *Shoreline Management Strategy*

Waterfront development is rapidly altering Virginia's shoreline, often in ways that can be detrimental to habitats and water quality. In particular, many low energy shorelines are being hardened with revetments and bulkheads where less damaging techniques for managing shoreline erosion could be employed. In many of these cases shoreline erosion could be managed through a "living shoreline" approach that maintains, or even expands, the habitat and water quality protection benefits of natural shorelines. As a result of this strategy, the various agencies involved in shoreline management are better able to promote living shoreline techniques and reduce the cumulative and secondary environmental impacts of waterfront development on shorelines. The strategy has provided support to the Virginia Institute of Marine Science (VIMS) to help develop a streamlined general permit for living shorelines, guidance on integrated shoreline management, and a policy preference for living shorelines. The 2011 Virginia General Assembly passed legislation that requires all coastal zone localities to adopt the shoreline management guidance from VIMS into their comprehensive plans. The strategy also focuses on supporting development of local shoreline management plans, which will promote the use of living shorelines where appropriate. The plans are intended for inclusion in local comprehensive plans and will be used for shoreline management decisions. In order to develop these plans, background information in the form of local shoreline inventories and shoreline evolutions reports are being collected for coastal localities with the support of the Virginia CZM Program.

Read more about the Shoreline Management Strategy at [www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/section3092011-2016strategy-csi.pdf](http://www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/section3092011-2016strategy-csi.pdf). *For more information about the Virginia CZM Program's shoreline management coordination activities, please contact Shep Moon at (804) 698-4527 or [Shep.Moon@deq.virginia.gov](mailto:Shep.Moon@deq.virginia.gov).*

### *Land and Water Quality Strategy: Hampton Roads and Middle Peninsula PDCs*

Through a series of VCZMP Section 309 Grants, the Hampton Roads Planning District Commission (HRPDC) is evaluating the effects of the Chesapeake Bay TMDL and Virginia's Stormwater Regulations on localities in its region experiencing high suburban growth. HRPDC is evaluating the existing comprehensive plans of selected localities for compatibility with the regulatory requirements and developing policy recommendations as needed. The project will result in the identification of tools to evaluate the impacts of alternative development scenarios as well as new policies to resolve identified conflicting issues. The PDC is also evaluating urban localities in its region faced with the challenge of encouraging sustainable



redevelopment and an increasing need for stormwater retrofits to meet the Chesapeake Bay TMDL and Virginia's Stormwater Regulations on redevelopment. HRPDC staff are identifying retrofit and redevelopment opportunities that maximize the protection of existing green infrastructure and are identifying potential areas for restoration. Some of the tools being evaluated include development of comprehensive stormwater management plans, authority to require greater tree canopy, no discharge marine zone designation, use-value taxation, transfer of development rights, and conservation subdivision design. Coastal PDCs, and localities that have worked with their PDCs on issues related to these pilot studies, will have an opportunity to receive funds for implementation projects based on tools and policies developed. Results will be disseminated through reports, web products and presentations at coastal zone-wide events such as the 2014 Virginia CZM Coastal Partners Workshop.

The Middle Peninsula Planning District Commission (MPPDC) is identifying pressing coastal issues of local concern related to Chesapeake Bay clean up and new federal and state legislation which ultimately will necessitate local action and local policy development. Achieving the local nutrient loading goals is a priority, and MPPDC is focused on developing the enforceable policy tools necessary to assist localities with the reduction of nutrient loadings by evaluating and assessing a series of environmental factors anticipated to support and maximize locality or regional participation proposed in the Chesapeake Bay TMDL Phase II Watershed Implementation Plan. MPPDC anticipates, among other enforceable policy changes, local land use program changes necessary to address nutrient reduction (including the expansion of the nutrient credit exchange program for on-site water treatment systems and determination of enforcement responsibility). This will have a very strong nexus to local land use policy, water quality protection, and fiscal concerns associated with the proliferation of new engineered septic systems. MPPDC has identified many cumulative and secondary impacts that have not been researched or discussed within a local public policy venue. MPPDC is also investigating key concerns related to coastal land use management/water quality and Onsite Sewage Disposal Systems (OSDS). MPPDC is focusing on solution based approaches, such as the establishment of a regional sanitary sewer district to manage the temporal deployment of nutrient replacement technology for installed OSDS systems, assessment of land use classifications and taxation implications associated with new state regulations which make all coastal lands developable regardless of environmental conditions; use of aquaculture and other innovative approaches such as nutrient loading offset strategies and economic development drivers. The project is comprised of a series of Section 309 water quality grants scheduled to be completed in 2015.

Coastal PDCs, and localities that have worked with their PDCs on issues related to these pilot studies, will have an opportunity to receive funds for implementation projects based on tools and policies developed. Results will be disseminated through reports, web products and presentations at coastal zone-wide events such as the 2014 Virginia CZM Coastal Partners Workshop.

Read more about the Land and Water Quality Strategy at [www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/section3092011-2016strategy-csi.pdf](http://www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/section3092011-2016strategy-csi.pdf). For more information about the Virginia CZM Program's Land and Water Quality Strategy contact Shep Moon at (804) 698-4527 or [Shep.Moon@deq.virginia.gov](mailto:Shep.Moon@deq.virginia.gov), or Beth Polak at (804) 698-4260; [Elizabeth.Polak@deq.virginia.gov](mailto:Elizabeth.Polak@deq.virginia.gov).